

Epidemiological profile of gestational syphilis in the municipality of Cacoal between 2016 and 2020

Perfil epidemiológico de sífilis gestacional no município de Cacoal entre 2016 e 2020

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Received: 03 Mar 2022,

Received in revised form: 25 Mar 2022,

Accepted: 01 Apr 2022,

Available online: 18 Apr 2022

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Keywords— Syphilis, Prenatal, Pregnant.

Palavras chaves - Sífilis, Pré-natal, Gestante.

Abstract— Syphilis is a Sexually Transmitted Infection caused by the bacterium *Treponema pallidum*, with various forms of clinical presentations and different stages. When not diagnosed and treated early, it can cause harm to the pregnant woman and fetus. The present study aimed to identify the characteristics of the epidemiological profile of pregnant women affected by syphilis in the city of Cacoal between 2016 and 2020. Descriptive, retrospective and quantitative documentary research, where the initial sample consisted of 95 pregnant women who were registered in the database SINAN data with a diagnosis of Gestational Syphilis. The collected data were distributed and presented by means of statistics through tables and/or graphs elaborated after the analysis. The study complies with CONEP Resolution No. 466/2012 and was developed after approval by the CEP under Opinion 5,060,962. As a result of the research, it was identified that the year with the highest notification rate was in 2020, totaling 26% of cases, the predominance of the diagnosis was stopped in the first gestational trimester with 53%, in

relation to age there was a variation between 14 and 41 years. of age, with an average age of 23 years and greater involvement in the young population, from 21 to 30 years of age, comprising 45% of the sample, 33% have completed high school and only 2% have completed higher education. Regarding the clinical classification, 76% of the cases were diagnosed as tertiary syphilis, the rapid test was performed in 84% of the pregnant women and the VDRL in 94%, in both with a predominant reagent result rate, without the occurrence of concomitant non-performance of the tests, it was observed that the titration 8 of VDRL/RPR was predominant, totaling 18% of the cases studied. It is concluded that the increase in the number of cases, the predominance in the young population with complete secondary education, the diagnosis in the first trimester, however prevalently in the tertiary phase, and the failure to perform the rapid test in part of the cases, although the Ministry of Health recommends, highlight the need for improvements in the effectiveness of prenatal care and to outline strategies for prevention, promotion and health awareness.

Resumo— A sífilis é uma Infecção Sexualmente Transmissível causada pela bactéria *treponema pallidum*, com várias formas de apresentações clínicas e com diferentes estágios. Quando não diagnosticada e tratada precocemente, pode acarretar agravos para a gestante e feto. O presente estudo teve como objetivo identificar as características do perfil epidemiológico das gestantes acometidas por sífilis no município de Cacoal entre 2016 e 2020. Pesquisa documental descritiva, retrospectiva e quantitativa, onde a amostra inicial constituiu-se de 95 gestantes que foram registradas no banco de dados do SINAN com diagnóstico de Sífilis Gestacional. Os dados coletados foram distribuídos e apresentados por meio de estatística através de tabelas e/ou gráficos elaborados após a análise. O estudo está de acordo com a Resolução do CONEP nº 466/2012 e foi desenvolvida a partir da aprovação junto ao CEP sob o parecer 5.060.962. Como resultado da pesquisa identificou-se que o ano com maior índice de notificação foi em 2020 totalizando 26% dos casos, a predominância do diagnóstico se deteve no primeiro trimestre gestacional com 53%, em relação a idade houve uma variação entre 14 e 41 anos de idade, com idade média de 23 anos e maior acometimento na população jovem, de 21 a 30 anos de idade compreendendo 45% da amostra, 33% possuem ensino médio completo e apenas 2% possuem ensino superior completo. Em relação a classificação clínica 76% dos casos foram diagnosticados como sífilis terciária, o teste rápido foi realizado em 84% das gestantes e o VDRL em 94%, em ambos com taxa de resultado reagente predominante, sem ocorrência de não realização concomitante dos testes, observou-se que a titulação 8 de VDRL/RPR foi preponderante totalizando 18% dos casos pesquisados. Conclui-se que o aumento do número de casos, a predominância na população jovem com ensino médio completo, o diagnóstico no primeiro trimestre entretanto prevalentemente na fase terciária e a não realização do teste rápido em parte dos casos, embora preconize o Ministério da Saúde, evidenciam a necessidade de melhorias na efetividade do pré-natal e traçar estratégias para a prevenção, promoção e conscientização em saúde.

I. INTRODUCTION

Syphilis has been known since the 15th century, and its study has occupied all medical fields, especially dermatology. Its etiological agent has never been cultivated and, despite being described more than 100 years ago and penicillin being used since 1943 as the most effective treatment, it remains an important public health problem in developed or developing countries, since, due to its characteristics and form of transmission, follows the changes in the behavior of society over the years (AVELLEIRA and BOTTINO, 2006).

It is a sexually transmitted infection (STI) caused by the bacterium *Treponema pallidum*, with various forms of clinical presentations and different stages. It can be classified according to time: recent acquired syphilis (less than a year of evolution) and late acquired syphilis (more than one year of evolution) and according to the clinical manifestations in primary, secondary, tertiary and latent, being attributed in the same way in gestational syphilis, which determines the type of treatment to be performed (BRASIL, 2015; BRASIL, 2019).

Although sexual intercourse is the main form of transmission, there are also other forms of contagion, such as: use of sharp objects contaminated by people with syphilis, blood transfusion and vertical transmission (BRASIL, 2010). During pregnancy, detection occurs at the first prenatal visit with the treponemal test: rapid test, performed even without symptoms in the first and third semester, and then confirmation by non-treponemal VDRL tests with titration records. Syphilis, when untreated or not properly treated during pregnancy, can bring serious complications to the fetus such as: abortion, stillbirth, premature birth and congenital syphilis. Syphilis is a disease of transplacental contamination, that is, passed from contaminated blood from the mother to the fetus (HENNIGEN, et al, 2020).

In 1943, benzathine benzylpenicillin was discovered, which is still used today. It is the drug of first choice for the treatment of syphilis, the only one registered with efficacy for the treatment of pregnant women, and there are no records of penicillin resistance registered in the world. Doxycycline and ceftriaxone are used as second-choice treatment (except in pregnant women) in people with sensitivity to benzathine benzylpenicillin (BRASIL, 2019). According to COFEN Resolution No. 03/2017, the administration of benzathine benzylpenicillin can be prescribed by nurses and administered by nursing professionals in basic health units.

Between 2010 and 2020, 783,544 cases of acquired syphilis were reported in Brazil, 4,563 cases were reported in Rondônia, 518 of which in the municipality of Cacoal,

with an increase in the number of cases over the years. In the period from 2010 to 2020, 357,140 cases of syphilis in pregnant women in Brazil and 183,708 cases of congenital syphilis in children under one year of age were reported to Sinan (SINAN, 2021).

Of the total of 24,253 cases of congenital syphilis reported in Brazil in 2019, 88.8% of the children were alive and 8.1% had some unfavorable outcome, of which 1.2% were classified as death from congenital syphilis, 0.7% as death from other causes, 3.7% as abortion and 2.5% as stillbirth and 3.1% had unknown evolution (BRASIL, 2020). In the absence of adequate treatment, 11% of pregnancies will result in fetal death after birth, 13% in premature or low birth weight deliveries, and at least 20% of newborns will show signs of congenital syphilis. On the other hand, the infection is diagnosed in only 1 to 2% of children of women who are adequately treated during pregnancy, compared to 70 to 100% of untreated pregnant women (HENNIGEN et al, 2020).

Due to the absence or little symptomatology of the disease in some stages, most people tend not to know that they are contaminated, leading to the transmission of the disease through sexual intercourse without the use of condoms. When identified late or treated incorrectly, it can affect mainly the nervous system and the cardiovascular system, which can lead to irreversible damage. It is extremely important to carry out the partner's prenatal care, which consists of the involvement of the man in all stages of reproductive planning and pregnancy, since it is in the consultation that the diagnosis and treatment of syphilis of both occur, avoiding after treatment, recontamination of the pregnant woman, and facilitating the monitoring of cases (BRASIL, 2015).

The analysis of the epidemiological profile of pregnant women affected by syphilis is a study of great importance since, in primary care, diagnosis, treatment and guidelines are carried out, avoiding further damage to the health of the patient and fetus, in addition to raising awareness among the population, preventing its dissemination. Prenatal care is of great importance for public health, as it makes possible to identify several problems such as STIs, detectable in the rapid tests performed at the first prenatal consultation, as in the first trimester of pregnancy, being repeated during the following three trimesters. Gestational syphilis, when not diagnosed and treated early, can have several sequelae in the fetus, and may be born with congenital syphilis (POLLO & RENOVATO, 2020; BRASIL, 2012).

Taking into account the high level of transmissibility, difficulty in identifying the disease by the patient, health problems, possibility of complications during pregnancy and vertical transmission, it is necessary to collect data on

the population profile of pregnant women affected by syphilis, as if there was increase in the number of cases in Cacoal and to characterize the predominant group, aiming at reducing the number of cases and preventing congenital syphilis.

II. MATERIALS AND METHODS

Descriptive, retrospective and quantitative documentary research, aiming to present the epidemiological profile of patients affected by gestational syphilis between the years 2016 and 2020 in the city of Cacoal-RO. Data were collected and analyzed in October 2020, provided by the Municipal Health Department (SEMUSA) through the compulsory notification forms of gestational syphilis in the database of the Notifiable Diseases Information System (SINAN).

The sample consisted of 95 patients diagnosed with gestational syphilis in the years in question, with data analysis using the following variables: year of notification, age group, education, clinical classification, gestational age, type of test performed and VDRL/ RPR. The instrument used was an Excel spreadsheet containing the variables necessary for the research in order to group the data for further analysis. The collected data were distributed and presented by means of descriptive statistics with absolute and relative numbers in a quantitative way through tables and/or graphs prepared in Word and Excel after the analysis, with the inclusion criterion having been diagnosed with syphilis during pregnancy in any gestational age and be notified to the Cacoal Health Department (SEMUSA) between 2016 and 2020 and exclusion criteria incomplete forms.

The study complies with Conep Resolution nº 466/2012, which complies with the precepts for research with human beings and was carried out after the approval and release of the Research Ethics Committee of UNIFACIMED with opinion number 5,060,962, being carried out the Waiver of the Consent Term as it is a documentary research.

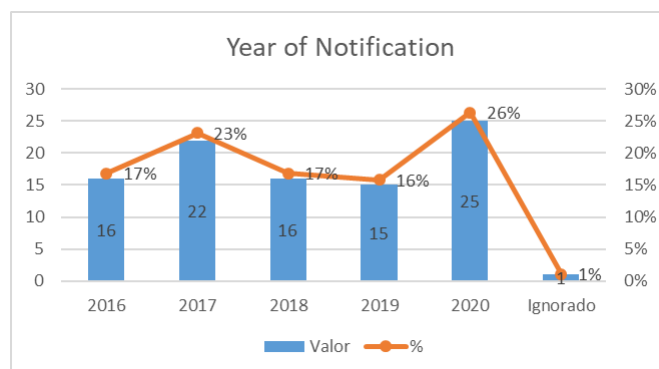
III. RESULTS AND DISCUSSION

Between 2016 and 2020, a total number of 95 pregnant women diagnosed with gestational syphilis were reported in the city of Cacoal, the year with the highest number of cases was 2020, as shown in Graph 1.

According to Table 1, the detection of gestational syphilis in the city of Cacoal predominantly occurred in the first trimester of pregnancy, with 53% of cases,

however 47% were diagnosed in the following trimesters, which can compromise the treatment and make it inappropriate, as According to the protocol of the Ministry of Health (MS), in order to be considered adequate, the treatment must be done with benzathine penicillin and started up to thirty days before delivery (BRASIL, 2015).

Graph 1: Annual distribution of reported cases of gestational syphilis in the city of Cacoal-RO between 2016 and 2020



Source: GERA; FERNANDES; SILVA; SOARES, 2021.

Table 1: Distribution of the gestational trimester in which the diagnosis of gestational syphilis occurred in the city of Cacoal-RO between 2016 and 2020.

Gestational trimester	Value	%
1	50	53%
2	28	29%
3	17	18%
Total	95	100%

Source: GERA; FERNANDES; SILVA; SOARES, 2021.

The diagnosis of gestational syphilis in the first trimester occurs with a higher proportion in the South (48.2%) and Southeast (43.7%) regions, and with a lower proportion in the Northeast (27.1%) and North (28.9%) regions.) with the progressive increase in the diagnosis of syphilis in the first trimester of pregnancy (BRASIL, 2020). When performed only in the third trimester of pregnancy, the diagnosis is considered late and may be related to the late start of prenatal care, as well as the low effectiveness of prenatal care (CONCEIÇÃO; CÂMARA; PEREIRA; 2019).

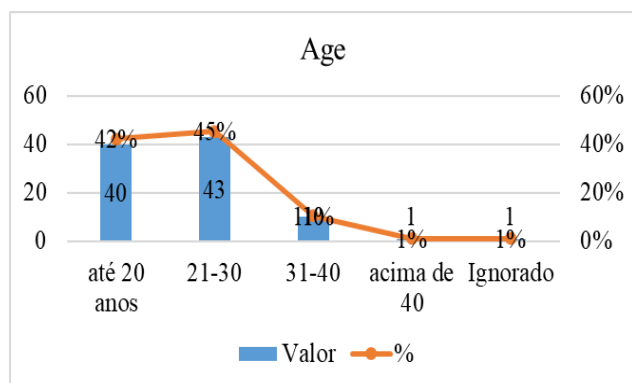
Although the prenatal care of these pregnant women has not been evaluated, nor the performance of nursing, it is important to emphasize that prenatal care is an important conduct in the diagnosis, guidance and monitoring of the

pregnant woman in the detection of gestational syphilis, with a view to carrying out the tests. for diagnosis in the first trimester of pregnancy or as soon as the pregnant woman starts prenatal care, aiming at early and adequate prophylaxis of the disease, avoiding infection of the newborn (PEREIRA; SANTOS; GOMES; 2020).

The role of nursing is fundamental, as it is the profession that makes the first contact with the pregnant woman in the basic health unit, performing rapid tests that identify the disease, providing quality care, avoiding harm to the mother and the baby, it is necessary to receive it. in a welcoming way, carry out only necessary interventions, facilitate access by integrating all levels of health care, such as promotion, prevention and health care for pregnant women and newborns, in addition to providing guidance on the importance of correct treatment and its implications (NUNES, et al. 2017).

The age of the reported pregnant women ranged from 14 to 41 years, with an average age of 23 years, with a greater involvement of the young population, with 45% aged between 21 and 30 years and 42% being aged up to 20 years, as shown in Graph 2, which is corroborated by Bottura, et al (2019), which highlights between the years 2007 and 2016 the average age of pregnant women with syphilis in Brazil from 20 to 29 years and considerable involvement of adolescents.

Graph 2: Distribution of the number of cases of gestational syphilis by age group in the city of Cacoal-RO between 2016 and 2020.



Source: GERA; FERNANDES; SILVA; SOARES, 2021.

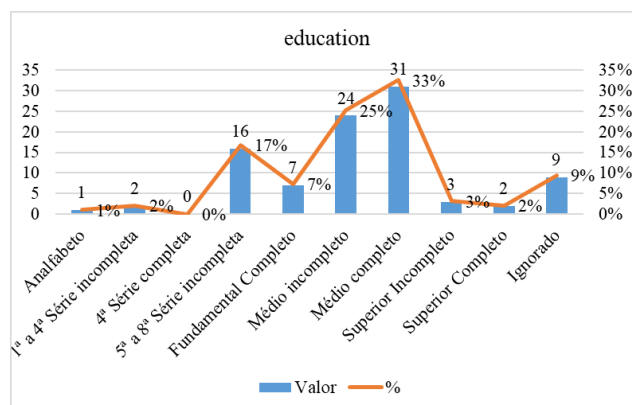
This context can be explained because early sexual initiation is directly related to susceptibility to sexually transmitted infections due to the search for new experiences, difficulty in using condoms and a feeling of invulnerability, in addition to low education (PINTO et al, 2018).

When it comes to sexual health, young people are more exposed, especially due to the irregular and infrequent use

of condoms, thus contributing to the increase in infection rates. Some factors such as low level of education, the multiplicity of partners, low adherence to prevention measures and late access to prenatal care with insufficient numbers of consultations collaborate to increase the levels of sexually transmitted infections (STIs), including syphilis (WALTZ et al., 2021).

According to Graph 3, most patients have completed high school, comprising 33%, followed by incomplete high school with 25%, while only 2% have completed higher education, disagreeing with Mesquita (2012) who states that most of the cases of syphilis occur in pregnant women with a low level of education, which demonstrates an evolution in the level of education, since, according to Maeda et al (2018), in Cacoal between 2007 and 2016 the highest incidence of gestational syphilis was found in women with incomplete 5th to 8th grade education.

Graph 3: Distribution of the educational level of pregnant women affected by syphilis in the city of Cacoal-RO between 2016 and 2020.



Source: GERA; FERNANDES; SILVA; SOARES, 2021.

The clinical classification is predominantly as tertiary syphilis, with 76% of the cases, as shown in Table 2, which shows a late diagnosis of syphilis, since it was not previously identified in the primary and secondary phases, since the lesions of the primary phase pass unnoticed by the patient. Whenever there is a report of a lesion in the genital region, current or prior to prenatal care, syphilis should be investigated, as well as in the presence of eruptions on the palms of the hands and soles of the feet suggestive of the secondary phase. Most pregnant women diagnosed with syphilis during prenatal care are asymptomatic and have no history of infection or treatment, and are therefore diagnosed in the latent phase (FEBRASGO, 2018).

Table 2: Distribution of the clinical classification of pregnant women affected by syphilis in the city of Cacoal-RO between 2016 and 2020.

Classificação Clínica	Valor	%
Primária	8	8%
Secundária	0	0%
Terciária	72	76%
Latente	15	16%
Total	95	100%

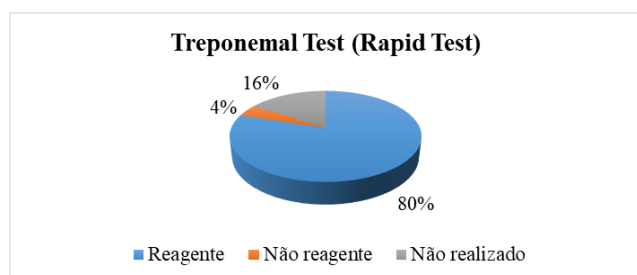
Source: GERA; FERNANDES; SILVA; SOARES, 2021.

The delay in diagnosing syphilis is directly related to the lack of knowledge of affected people about the disease and its clinical manifestations, fear, shame, tension, discomfort, guilt, impacts on marital life, pain during treatment and stigmas in the family and social, which leads the individual to hide the disease and not want to seek treatment (CAVALCANTE, et al, 2012).

On the other hand, the professional's knowledge about the management of this disease is fundamental in the elaboration of strategies that point ways to a quality care with correct treatment and avoiding late diagnosis, in addition to monitoring pregnant women, performs health education actions. for the awareness of the population, causing the identification of signs and symptoms of the disease and the search for help as soon as possible (RODRIGUES, et al. 2016).

The treponemal test (rapid test) was performed in 84% of the pregnant women, while the non-treponemal test (VDRL) was performed in 94%, in both the rate of reactive results was predominant, as shown in Graphs 4 and 5. It is important to emphasize that all pregnant women diagnosed with syphilis in the period in question underwent some test for the diagnosis of syphilis, whether treponemal or not, the rate of non-performance and/or ignored did not occur concomitantly in the two tests for the same pregnant woman.

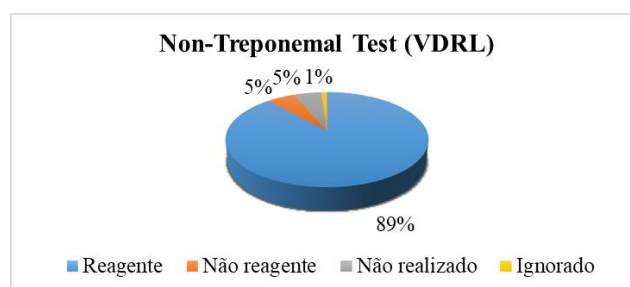
Graph 4: Distribution of the results of treponemal tests performed on pregnant women with syphilis in the city of Cacoal-RO, 2016 and 2020.



Source: GERA; FERNANDES; SILVA; SOARES, 2021.

According to Santos, et al (2017), the importance of the rapid test for syphilis is the rapid diagnosis, between 10 and 15 minutes, causing early treatment to be initiated in order to reduce transmission and minimize health problems, in addition to be recommended by the Ministry of Health to carry out the rapid test in the first trimester, preferably in the first prenatal consultation, its repetition in the third trimester and at childbirth (BRASIL, 2012).

Graph 5: Distribution of non-treponemal test results in pregnant women with syphilis in the city of Cacoal-RO, 2016 and 2020.



Source: GERA; FERNANDES; SILVA; SOARES, 2021.

The Ministry of Health recommends monitoring the pregnant woman's VDRL titration, if there is no fall or if there is an increase in the titration in relation to the last exam, the pregnant woman should be treated again and the partner's treatment verified, if this monitoring is not carried out. can result in inadequate treatment and bring serious damage to the pregnant woman and especially to the fetus (BRASIL, 2019).

Among the total number of pregnant women in the sample, when performing the non-treponemal test, it was observed that the titration 8 of VDRL/RPR was preponderant, totaling 18% of the cases, followed by 32 with 16% and the lowest occurrence was seen in the titration of 256, presenting only 1% of the sample, as shown in Table 3.

Table 3: Distribution of VDRL/RPR titration in pregnant women affected by syphilis in the city of Cacoal-RO between 2016 and 2020.

Titulação	Valor	%
1	9	9%
2	7	7%
4	8	8%
8	17	18%
16	12	13%
32	15	16%

64	11	12%
128	4	4%
256	1	1%
Ignorado	11	12%
Total	95	100%

Source: GERA; FERNANDES; SILVA; SOARES, 2021.

For the monitoring of reported cases, it is up to the medical professional or nurse to carry out consultations, requests for complementary exams, drug prescriptions and referrals, when necessary, according to protocols or technical regulations, the monitoring of pregnant women with syphilis must be monthly, evaluating the titration, possible reinfection and therapeutic failure indicating the need for new treatment, after delivery the woman should be followed up every three months until completing one year (POLLO & RENOVATO, 2020; HENNIGEN, et al, 2020).

IV. FINAL CONSIDERATIONS

The analysis of the epidemiological profile of syphilis in pregnant women in the city of Cacoal was relevant for the study, as it made it possible to identify the increase in the number of cases over the years, the predominance in the young population with complete high school, early detection at the beginning of pre-natal care, however prevalently in the tertiary phase of the disease and the failure to perform the rapid test in part of the cases, although the Ministry of Health advocates the need for improvements in the effectiveness of prenatal care and to outline strategies for prevention, promotion and awareness in health.

Therefore, it is essential to address all aspects related to syphilis during the prenatal consultation, from the identification of risk factors, carrying out the rapid test, especially in the first consultation, to diagnosis and treatment, facilitating the pregnant woman's access to services. of health, integrating levels of care such as promotion, prevention and assistance to pregnant women and newborns, in addition to providing guidance on the use of condoms, attendance at prenatal consultations, adherence to measures prescribed by health professionals and the serious risks of syphilis for pregnant women and newborns.

ACKNOWLEDGEMENTS

Thanking colleagues for their performance in the construction of the work and the advisor for their patience and tips

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